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(54) **PROVIDING LICENSED CONTENT TO A USER**

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(57) **ABSTRACT**

When a user requests licensed content, a dynamic licensing mechanism automatically requests and receives licenses for the licensed content when one or more criterion in a licensing policy is satisfied by license information relating to the content, without the user providing any further input to acquire the licenses.

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**G06F 21/00** (2013.01)

**G06Q 20/42** (2012.01)

**G06Q 30/06** (2012.01)

(52) **U.S. Cl.**

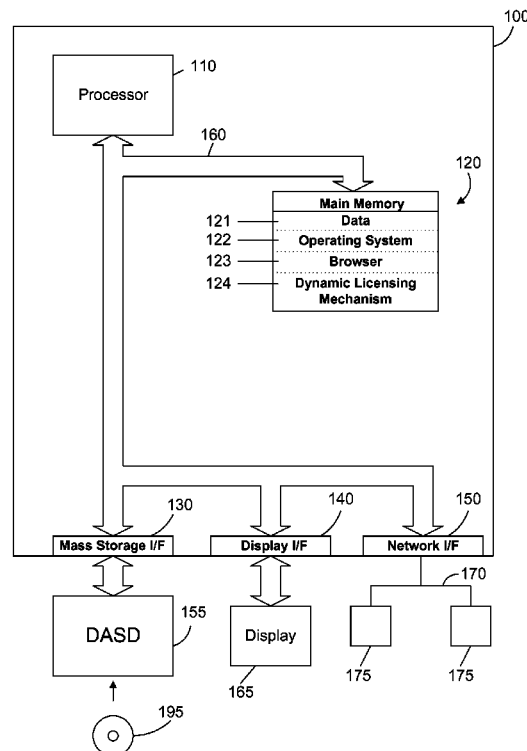
CPC ..... **G06Q 20/42** (2013.01); **G06Q 30/06** (2013.01)

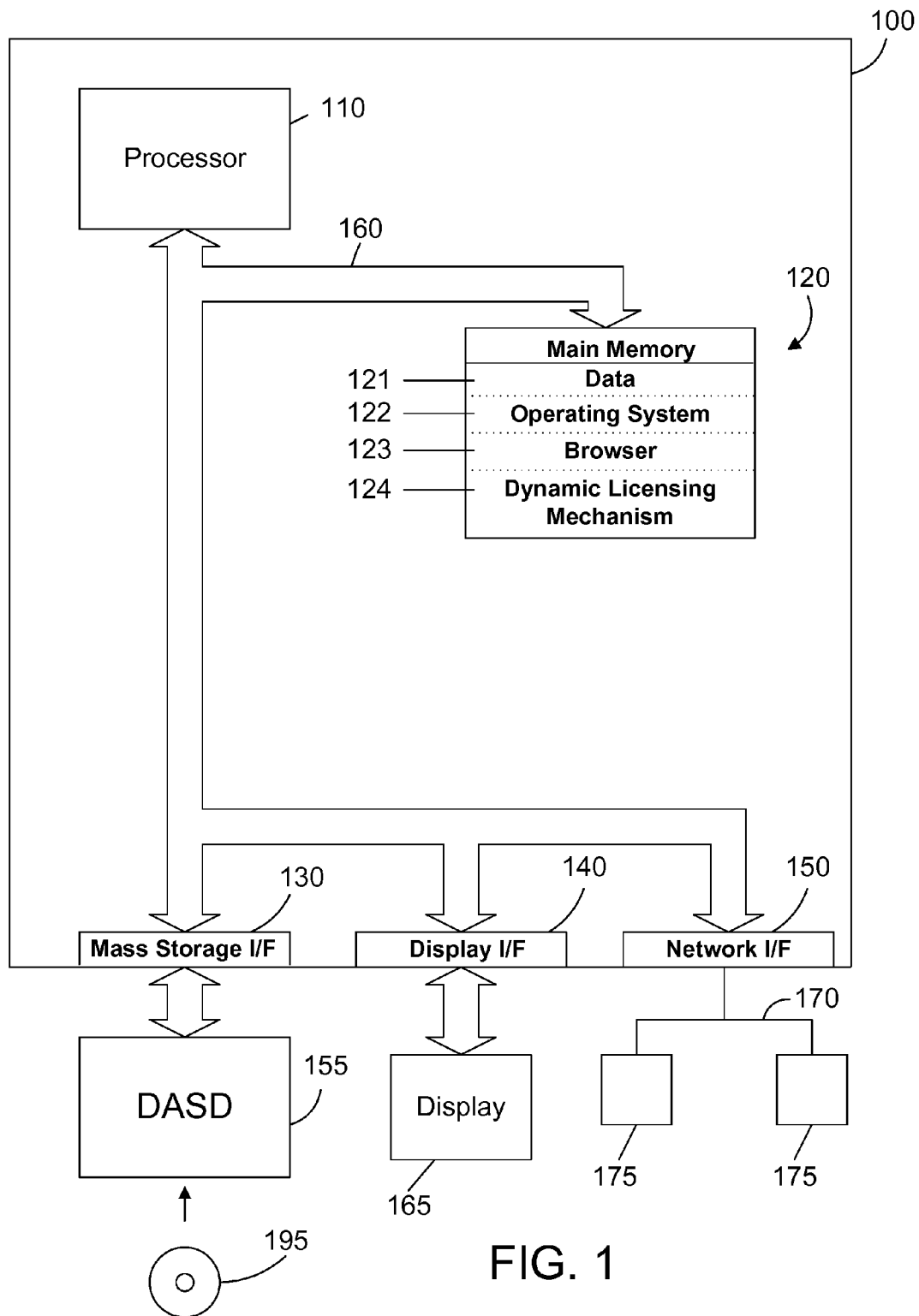
(58) **Field of Classification Search**

CPC ..... G06Q 20/1235

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See application file for complete search history.





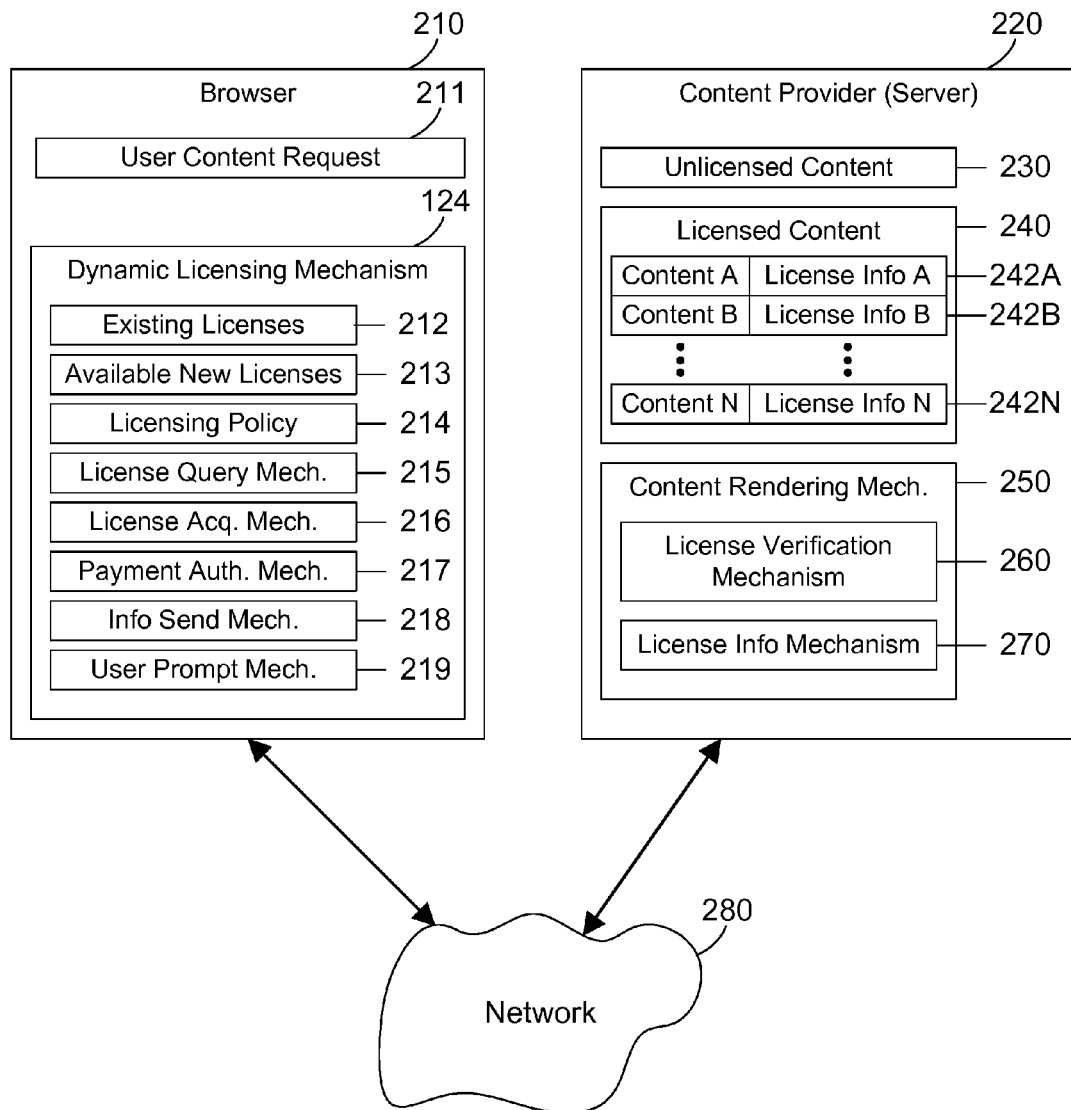
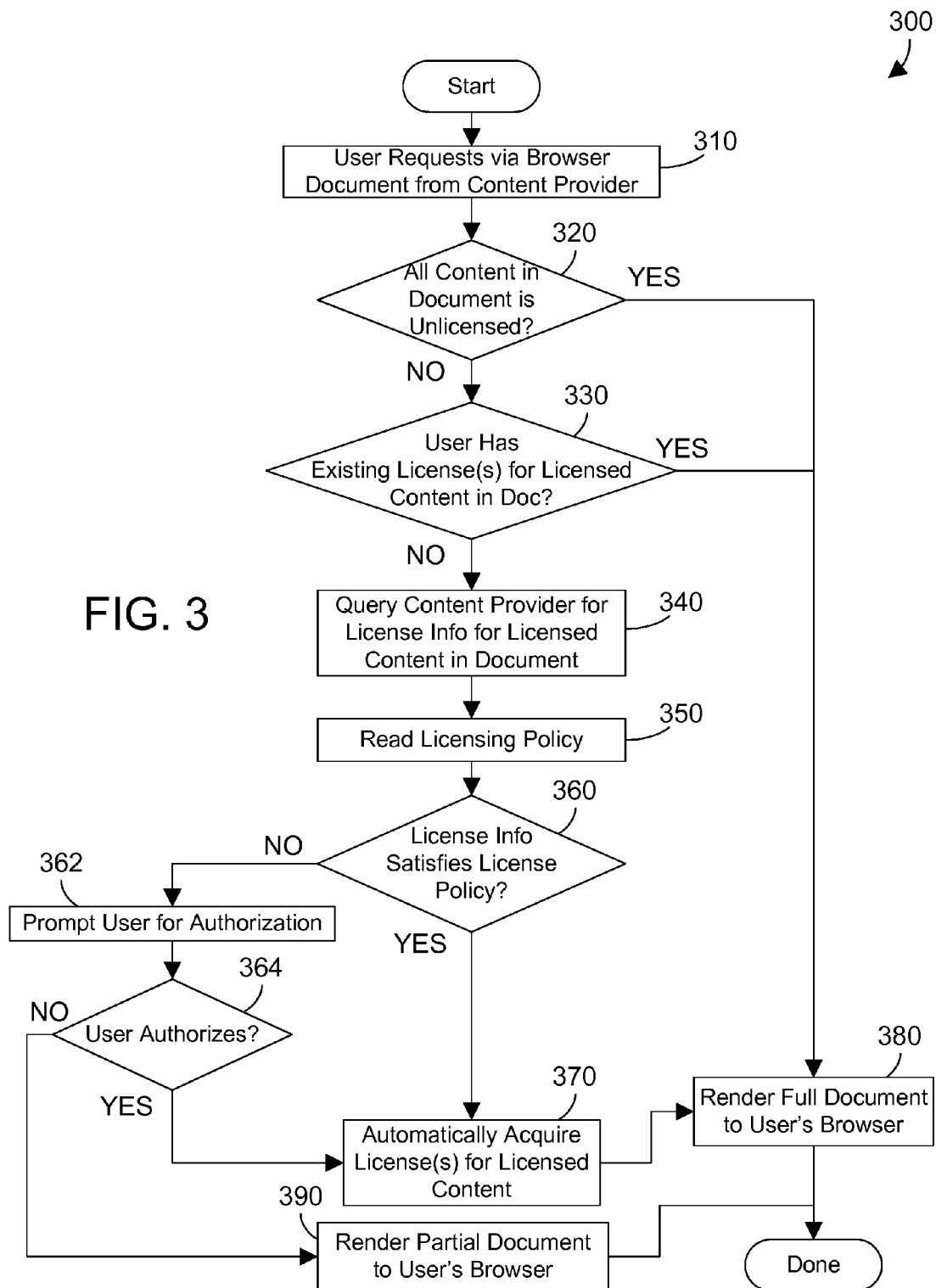


FIG. 2



Sample License Info	410
Price per object	422
Price per time viewed	424
Price per time of day viewed	426
Price for Quick Peek	428
Price for Bulk License	430
Price for Flat Rate License	432
Price for Sliding Scale License	434
Preferred License Information	436
Available Discount Information	438

FIG. 4

Sample Licensing Policy	510
Max Cost per object	522
Max Cost per time viewed	524
Max Cost per time of day viewed	526
Max Cost for Quick Peek	528
Max Cost for Bulk License	530
Max Cost for Flat Rate License	532
Max Cost for Sliding Scale License	534
Preferred License	536
Max Cost per Document	538
Max Cost per day for user	540
Content Substitution Tradeoff	542
Cost Increase Specification	544
Available Discounts Specification	546

FIG. 5

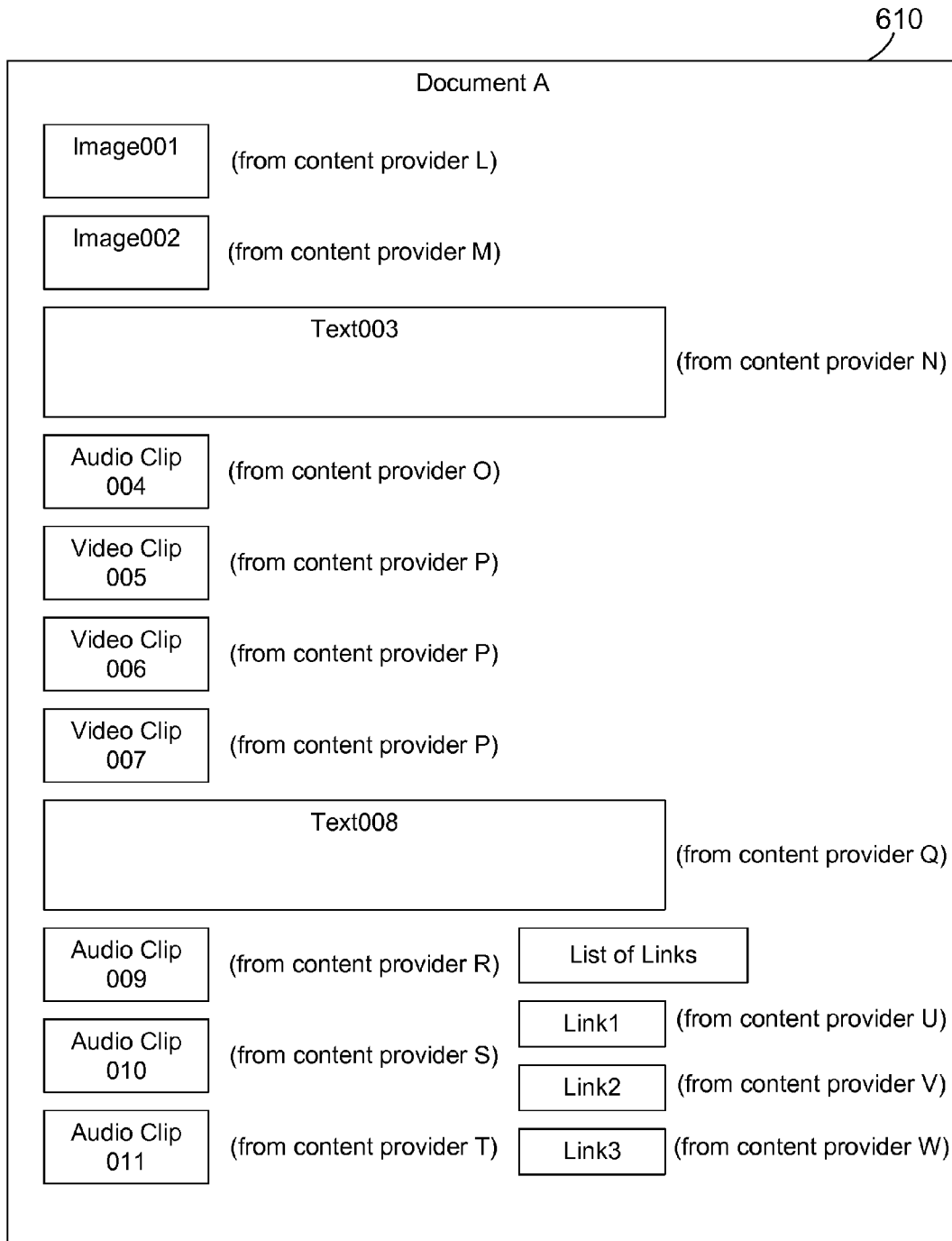


FIG. 6

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Document A License Info	
Content	License Info
Image001	Price per object = \$0.25
	Price for Quick Peek = \$0.05
	Price of Bulk License from Content Provider L = \$15/year
	Price of Flat Rate License from Content Provider L = \$2/month
	Price for Sliding Scale License = \$0.25 per object, at 100 objects price reduces to \$0.15 per object
Image002	Price per object = \$0.10
	Price of Bulk License from Content Provider M = \$1/month or \$10/year
Text003	Price per object from 8AM-5PM = \$0.20
	Price per object from 5PM-8AM = \$0.08
Audio Clip 004	Free if user provides e-mail address
Video Clip 005	Price per object \$0.05
	Price of Bulk License from Content Provider P = \$20/year
Video Clip 006	Price per object \$0.10
	Price of Bulk License from Content Provider P = \$20/year
Video Clip 007	Price per object \$0.25
	Price of Bulk License from Content Provider P = \$20/year
Text008	Price per object \$0.05
Audio Clip 009	Price per object \$0.05
	Price of Bulk License from Content Provider R = \$10/year
Audio Clip 010	Price per object \$0.10
	Price of Bulk License from Content Provider S = \$15/year
Audio Clip 011	Price per object \$0.07
	Price of Bulk License from Content Provider T = \$25/year
Link1	Price per object from 9AM-6PM = \$0.10
	Price per object from 6PM-9AM = \$0.05
Link2	Price per object \$0.15
	Price of Bulk License from Content Provider V = \$12/year
Link3	Free

FIG. 7

FIG. 8

User J Licensing Policy	810
Max Cost per object = \$0.10	822
Max Cost per time viewed = \$0.05/min	824
Max Cost per time of day received = \$0.20 peak, \$0.10 off-peak	826
Max Cost for Quick Peek = \$0.05	828
Max Cost for Bulk License = \$2/month, \$20/year	830
Max Cost per Document = \$2	832
Max Cost per day for User J = \$10	834
Prefer Content with Existing License	836
Provide User Info to Obtain License	838
Allow Less Expensive Content Substitution	840
Prefer Content that is Discounted Based on Browser and Plugins	842

FIG. 9

Charges to User J for Document A		
Content	Provider	Cost
Image001	L	\$0.05
Image002	M	\$0.10
Text003	N	\$0.08
Video Clip 005	P	\$0.05
Text008	Q	\$0.05
Audio Clip 009	R	\$0.05
Audio Clip 010	S	\$0.10
Audio Clip 011	T	\$0.07
Link1	U	\$0.10
Link3	W	0.00
	Total	\$0.65



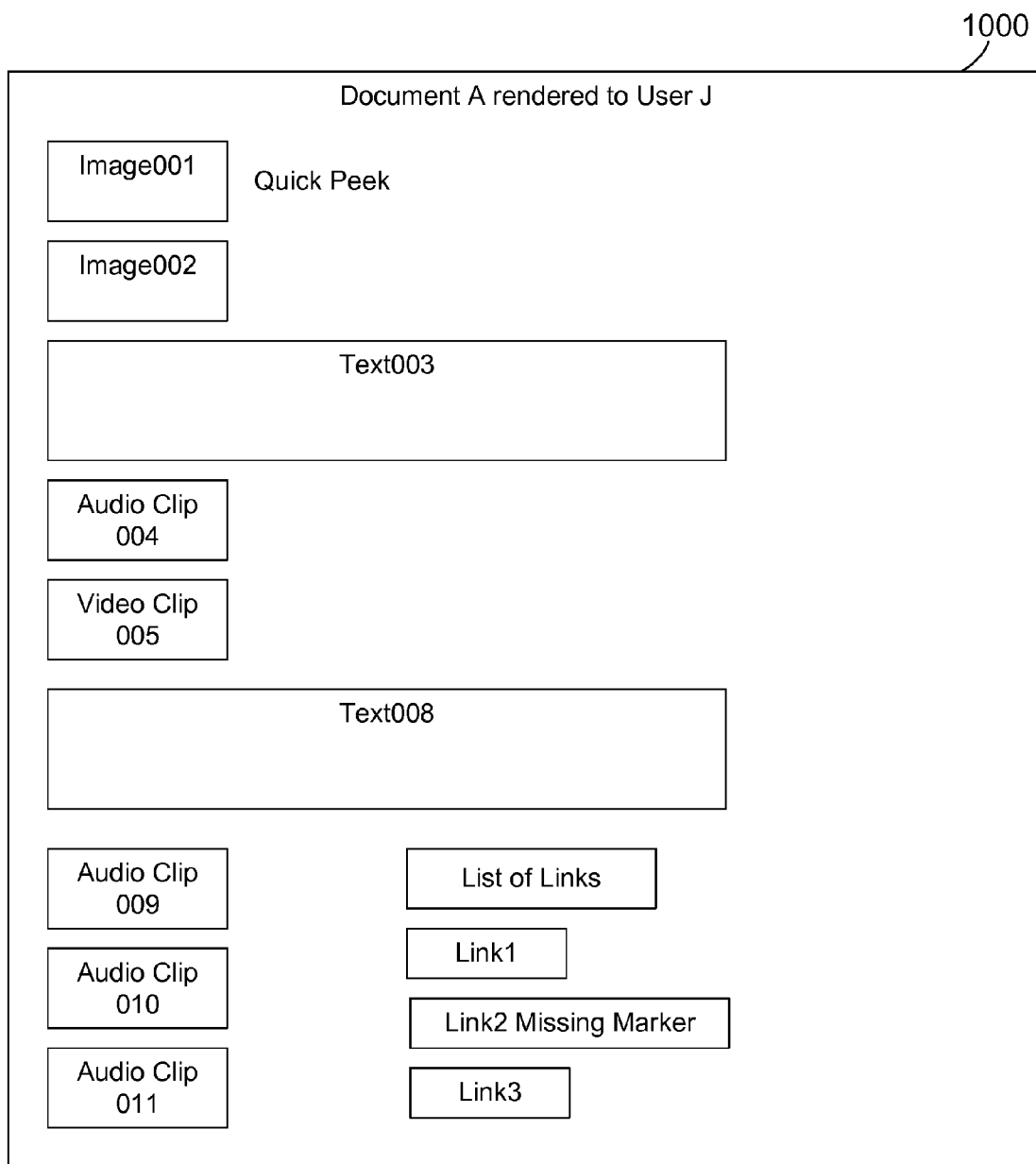


FIG. 10

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## PROVIDING LICENSED CONTENT TO A USER

### BACKGROUND

#### 1. Technical Field

This disclosure generally relates to a system for providing content to a user, and more specifically relates to a system for providing licensed content to a user.

#### 2. Background Art

Computers are very useful for storing and retrieving information. The popularity of the Internet has changed how many people live due to the large amount of information that is readily available on virtually any subject of interest. For example, many people when confronted with medical symptoms will first search online for information regarding the symptoms and recommended courses of treatment before consulting their doctor. In addition, many people have changed how they receive their news. Where a person a generation ago would get their news from a daily newspaper and the evening news program on television, more and more people choose to receive their news online.

The widespread popularity of the Internet has given rise to the need to deliver licensed content to users upon request. The term "licensed content" as used herein is any content that requires the user to do something in exchange for receiving the content. One form of licensed content is paid content. For example, many web sites provide content in exchange for the user paying a fee. If a user pays the fee, the user may then access the information on the website. Another form of licensed content is free content that is provided in exchange for the user agreeing to certain conditions. For example, the user might be required to enter his or her e-mail address in order to access the licensed free content. In the alternative, the user may be required to agree to view advertisements in order to access the licensed free content. Yet another form of licensed content is content provided by one web site when the user is a paid subscriber to a different partner web site. Of course, there are many other possibilities for licensed content. The disclosure and claims herein expressly extend to any suitable form of licensed content that is provided to the user upon the user satisfying one or more conditions, whether the licensed content is currently known or developed in the future.

Some web sites and other content providers now provide licensed content from a number of different sources. This complicates the process of providing the content to a user because the content provider must check to see if the user is licensed to receive the licensed content from each of the licensed sources. If the user is not licensed, the licensed content is not provided to the user. If the user is trying to access a document that includes licensed content from ten different content providers, and the user has a license for only two of those ten content providers, the user may become very frustrated at the inability to access the information from then non-licensed content providers, and may not know what steps to take, or even who is the provider of the missing content.

One possible way to mitigate the frustration of a user at receiving licensed content is to provide the licensed content on a per-object basis. However, users have historically shied away from per-object pricing, preferring a flat fee model. One reason for this is the uncertainty at the final cost of receiving the licensed content. A user may be willing to pay a higher flat fee instead of paying on a per-object basis so the user is certain of the charges. Without a way to automate the process for a user to obtain licensed content, the process for

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the user to access licensed content from multiple sources will be inefficient and frustrating for the user.

### BRIEF SUMMARY

A dynamic licensing mechanism uses a licensing policy specified by a user. When a document requested by a user includes licensed content that the user is not licensed to receive, the dynamic licensing mechanism queries the content provider to determine license information regarding what licenses are available for the content the user is not licensed to receive. If the license information satisfies criteria specified in the licensing policy, the dynamic licensing mechanism automatically performs the steps required to receive a license to the content, which may include authorizing payment, sending the user's e-mail address or other information, etc., without any further interaction required by the user. When the dynamic licensing mechanism can successfully acquire a license for all content in the document because the available licenses satisfy the licensing policy, the content provider then provides the full document to the user with all its licensed content. When the dynamic licensing mechanism cannot successfully acquire a license for all content in the document because the available licenses do not satisfy the criteria in the licensing policy, the dynamic licensing mechanism may prompt the user with the information regarding what is required to access the licensed content. If the user authorizes to receive the licensed content that did not satisfy the licensing policy, the dynamic licensing policy acquires the needed license(s) and delivers the full document. If the user does not authorize to receive the licensed content that did not satisfy the licensing policy, the content provider may send to the user the document without the content that did not satisfy the licensing policy. In the alternative, the content provider may determine the user cannot receive any of the document because the user is not licensed to access all of the licensed content in the document.

The foregoing and other features and advantages will be apparent from the following more particular description, as illustrated in the accompanying drawings.

### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

The disclosure will be described in conjunction with the appended drawings, where like designations denote like elements, and:

FIG. 1 is a block diagram of an apparatus that includes a dynamic licensing mechanism;

FIG. 2 is a block diagram that shows a browser coupled to a content provider via a network;

FIG. 3 is a flow diagram of a method for delivering licensed content to a user;

FIG. 4 shows sample license information;

FIG. 5 shows sample information that may be included in the licensing policy;

FIG. 6 is a block diagram of a sample document;

FIG. 7 shows sample licensing information for the content in the sample document in FIG. 6;

FIG. 8 is one specific example of a licensing policy for User J;

FIG. 9 is a table that shows charges to User J for receiving Document A shown in FIG. 10; and

FIG. 10 shows Document A rendered to User J.

### DETAILED DESCRIPTION

The claims and disclosure herein provide a dynamic licensing mechanism that determines license information for

content requested by a user, determines whether the license information satisfies a licensing policy specified by the user, and if so, automatically acquires the license(s) for the content so the content may be delivered to the user by the content provider without the user having to take any action after requesting the document to obtain the license(s).

Referring to FIG. 1, a computer system 100 is one suitable implementation of a computer system that includes a dynamic licensing mechanism that automatically acquires licenses for licensed content if the license information regarding available licenses for the licensed content satisfy a licensing policy specified by a user. Computer system 100 is an IBM eServer System i computer system. However, those skilled in the art will appreciate that the disclosure herein applies equally to any computer system, regardless of whether the computer system is a complicated multi-user computing apparatus, a single user workstation, or an embedded control system. As shown in FIG. 1, computer system 100 comprises one or more processors 110, a main memory 120, a mass storage interface 130, a display interface 140, and a network interface 150. These system components are interconnected through the use of a system bus 160. Mass storage interface 130 is used to connect mass storage devices, such as a direct access storage device 155, to computer system 100. One specific type of direct access storage device 155 is a readable and writable CD-RW drive, which may store data to and read data from a CD-RW 195.

Main memory 120 preferably contains data 121, an operating system 122, a browser 123, and a dynamic licensing mechanism 124. Data 121 represents any data that serves as input to or output from any program in computer system 100. Operating system 122 is a multitasking operating system. Browser 123 is a mechanism that may be used by a user to request content from a content provider. If the content is in the form of a web page, the browser 123 may be a known web browser, such as Microsoft Explorer, Mozilla Firefox, or Google Chrome. Note, however, the term "browser" used herein broadly encompasses any mechanism that allows a user to request content from a content provider, whether currently known or developed in the future. Thus, an operating system on a mobile phone is considered a "browser" if the user can request licensed content using the mobile phone. The dynamic licensing mechanism 124 determines from a content provider the available licenses for content, and if the available licenses satisfy a licensing policy specified by the user, the dynamic licensing mechanism 124 can automatically acquire the needed license without input from the user after the initial request for the licensed content is made by the user. More details regarding the dynamic licensing mechanism are discussed below.

Computer system 100 utilizes well known virtual addressing mechanisms that allow the programs of computer system 100 to behave as if they only have access to a large, single storage entity instead of access to multiple, smaller storage entities such as main memory 120 and DASD device 155. Therefore, while data 121, operating system 122, browser 123, and dynamic licensing mechanism 124 are shown to reside in main memory 120, those skilled in the art will recognize that these items are not necessarily all completely contained in main memory 120 at the same time. It should also be noted that the term "memory" is used herein generically to refer to the entire virtual memory of computer system 100, and may include the virtual memory of other computer systems coupled to computer system 100.

Processor 110 may be constructed from one or more microprocessors and/or integrated circuits. Processor 110

executes program instructions stored in main memory 120. Main memory 120 stores programs and data that processor 110 may access. When computer system 100 starts up, processor 110 initially executes the program instructions that make up operating system 122.

Although computer system 100 is shown to contain only a single processor and a single system bus, those skilled in the art will appreciate that a dynamic licensing mechanism may be practiced using a computer system that has multiple processors and/or multiple buses. In addition, the interfaces that are used preferably each include separate, fully programmed microprocessors that are used to off-load compute-intensive processing from processor 110. However, those skilled in the art will appreciate that these functions may be performed using I/O adapters as well.

Display interface 140 is used to directly connect one or more displays 165 to computer system 100. These displays 165, which may be non-intelligent (i.e., dumb) terminals or fully programmable workstations, are used to provide system administrators and users the ability to communicate with computer system 100. Note, however, that while display interface 140 is provided to support communication with one or more displays 165, computer system 100 does not necessarily require a display 165, because all needed interaction with users and other processes may occur via network interface 150.

Network interface 150 is used to connect computer system 100 to other computer systems or workstations 175 via network 170. Network interface 150 broadly represents any suitable way to interconnect electronic devices, regardless of whether the network 170 comprises present-day analog and/or digital techniques or via some networking mechanism of the future. Network interface 150 preferably includes a combination of hardware and software that allow communicating on the network 170. Software in the network interface 150 preferably includes a communication manager that manages communication with other computer systems 175 via network 170 using a suitable network protocol. Many different network protocols can be used to implement a network. These protocols are specialized computer programs that allow computers to communicate across a network. TCP/IP (Transmission Control Protocol/Internet Protocol) is an example of a suitable network protocol that may be used by the communication manager within the network interface 150.

As will be appreciated by one skilled in the art, aspects of the present invention may be embodied as a system, method or computer program product. Accordingly, aspects of the present invention may take the form of an entirely hardware embodiment, an entirely software embodiment (including firmware, resident software, micro-code, etc.) or an embodiment combining software and hardware aspects that may all generally be referred to herein as a "circuit," "module" or "system." Furthermore, aspects of the present invention may take the form of a computer program product embodied in one or more computer readable medium(s) having computer readable program code embodied thereon.

Any combination of one or more computer readable medium(s) may be utilized. The computer readable medium may be a computer readable signal medium or a computer readable storage medium. A computer readable storage medium may be, for example, but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, or device, or any suitable combination of the foregoing. More specific examples (a non-exhaustive list) of the computer readable storage medium would include the following: an electrical connec-

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tion having one or more wires, a portable computer diskette, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), an optical fiber, a portable compact disc read-only memory (CD-ROM), an optical storage device, a magnetic storage device, or any suitable combination of the foregoing. In the context of this document, a computer readable storage medium may be any tangible medium that can contain, or store a program for use by or in connection with an instruction execution system, apparatus, or device.

A computer readable signal medium may include a propagated data signal with computer readable program code embodied therein, for example, in baseband or as part of a carrier wave. Such a propagated signal may take any of a variety of forms, including, but not limited to, electromagnetic, optical, or any suitable combination thereof. A computer readable signal medium may be any computer readable medium that is not a computer readable storage medium and that can communicate, propagate, or transport a program for use by or in connection with an instruction execution system, apparatus, or device.

Program code embodied on a computer readable medium may be transmitted using any appropriate medium, including but not limited to wireless, wireline, optical fiber cable, RF, etc., or any suitable combination of the foregoing.

Computer program code for carrying out operations for aspects of the present invention may be written in any combination of one or more programming languages, including an object oriented programming language such as Java, Smalltalk, C++ or the like and conventional procedural programming languages, such as the "C" programming language or similar programming languages. The program code may execute entirely on the user's computer, partly on the user's computer, as a stand-alone software package, partly on the user's computer and partly on a remote computer or entirely on the remote computer or server. In the latter scenario, the remote computer may be connected to the user's computer through any type of network, including a local area network (LAN) or a wide area network (WAN), or the connection may be made to an external computer (for example, through the Internet using an Internet Service Provider).

Aspects of the present invention are described herein with reference to flowchart illustrations and/or block diagrams of methods, apparatus (systems) and computer program products according to embodiments of the invention. It will be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams, can be implemented by computer program instructions. These computer program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions, which execute via the processor of the computer or other programmable data processing apparatus, create means for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

These computer program instructions may also be stored in a computer readable medium that can direct a computer, other programmable data processing apparatus, or other devices to function in a particular manner, such that the instructions stored in the computer readable medium produce an article of manufacture including instructions which implement the function/act specified in the flowchart and/or block diagram block or blocks.

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The computer program instructions may also be loaded onto a computer, other programmable data processing apparatus, or other devices to cause a series of operational steps to be performed on the computer, other programmable apparatus or other devices to produce a computer implemented process such that the instructions which execute on the computer or other programmable apparatus provide processes for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

Referring to FIG. 2, a block diagram shows a system that allows delivery of content to a user using a dynamic licensing mechanism as disclosed herein. A browser 210 represents a user interface that allows a user to request content from a content provider 220. Browser 210 is one suitable representation of browser 123 in FIG. 1. The browser 210 and content provider 220 are coupled together via a network 280. Network 280 is one suitable representation for network 170 in FIG. 1, and may include a local area network, a wide area network, the Internet, etc. As discussed above, the browser may be any suitable interface for requesting content, whether using an existing web browser on a computer system, using a mobile phone, or using any other suitable device that is capable of downloading content from a content provider. A user content request 211 is specified by a user in the browser 210, and expressly extends to any suitable way for a user to request content, whether currently known or developed in the future. Details of the dynamic licensing mechanism 124 shown in FIG. 1 include existing licenses 212, available new licenses 213, a licensing policy 214, a license query mechanism 215, a license acquisition mechanism 216, a payment authorization mechanism 217, an information send mechanism 218, and a user prompt mechanism 219. Existing licenses 212 represent licenses the user already has for licensed content, and may include any suitable type of license, whether for one-time use, pay-per object, time-based license (daily, weekly, monthly, annually, etc.), bulk license, or any other suitable type of license. Available new licenses 213 represent licenses that are available to the user. The available new licenses 213 are preferably determined by the license query mechanism 215 querying the content provider 220 for license information related to licensed content. The licensing policy 214 is preferably specified by the user, and includes one or more criterion for automatically acquiring a license for licensed content without requiring further input from the user. More details of the licensing policy 214 are provided below. The license query mechanism 215 queries the content provider 220 to determine the license information relating to licensed content. The license query mechanism 215 preferably determines from the license information and from the existing licenses 212 the available new licenses 213 for content the user requests from the content provider 220. The license acquisition mechanism 216 is used to automatically acquire one or more licenses for licensed content requested by the user without requiring further input from the user. The license acquisition mechanism 216 automatically acquires the one or more licenses when the license information retrieved from the content provider 220 satisfies the criteria for automatically acquiring a license in the licensing policy 214. The payment authorization mechanism 217 is used to authorize payment when licensed content requires payment by the user. The payment authorization mechanism 217 preferably authorizes payment to the content provider 220 without requiring further input from the user. The information send mechanism 218 is used when a license for licensed content requires the user to send information to the content provider 220 in order to receive a license to the licensed

content. For example, a content provider **220** may not charge anything for licensed content, but may require the user to provide the user's e-mail address in exchange for the licensed content so the content provider can send e-mails to the user regarding new content that becomes available. The user prompt mechanism **219** provides a way to prompt the user when the license information related to content requested by the user does not satisfy the licensing policy **214** specified by the user. The user, when prompted by the user prompt mechanism **219**, may then select whether to authorize the delivery of the content even though the license information does not satisfy the licensing policy **214**, or may select not to authorize delivery of the content.

The content provider **220** is typically a server computer system, and preferably includes unlicensed content **230** and licensed content **240**. The licensed content **240** includes license information for each licensed content. Thus, for the simple example in FIG. 2, licensed content **240** includes content A with corresponding license information A at **242A**, content B with corresponding license information B at **242B**, . . . , content N with corresponding license information N at **242N**. The content provider **220** also includes a content rendering mechanism **250** that renders content to a user when the content provider **220** receives a user content request **211** when the user has the necessary licenses to receive any licensed content that is included in the user content request **211**. The content rendering mechanism **250** includes a license verification mechanism **260** that determines whether or not a user is licensed to access licensed content, and a license information mechanism **270** that provides license information regarding licensed content to the license query mechanism **215** in the user's browser **210**.

A simple example will illustrate how the browser **210** interacts with the content provider **220** in FIG. 2. When a user enters a user content request **211**, the browser **210** first sends the user content request **211** to the content rendering mechanism in the content provider **220**. The license verification mechanism **260** then determines whether the user is licensed to receive licensed content (if any) that corresponds to the user content request **211**. In one suitable implementation, the content provider **220** includes information regarding the existing licenses **212** for the user. In an alternative implementation, the dynamic licensing mechanism **124** may send the existing licenses **212** to the content provider **220**. The license verification mechanism **260** determines whether the user is licensed to receive all content corresponding to the user content request **211**. If so, the content rendering mechanism **250** renders the content corresponding to the user content request **211** to the user's browser **210**. If the user is not licensed to receive all content corresponding to the user content request **211**, the license query mechanism **215** queries the content provider **220** for license information. In response, the license information mechanism **270** sends license information (e.g., in **242A**, **242B**, . . . , **242N**) that corresponds to licensed content corresponding to the user content request for which the user does not currently have a license. The license information returned by the license information mechanism **270** to the license query mechanism **215** preferably specifies the available new licenses **213**. In the alternative, the license query mechanism **215** may process the license information received from the license information mechanism **270** to generate the available new licenses **213**. The dynamic licensing mechanism **124** then determines whether the license information regarding available new licenses **213** satisfies the criterion or criteria specified in the licensing policy **214**. When the license information regarding available new licenses **213** satisfies

the licensing policy **214**, the license acquisition mechanism **216** performs the necessary steps to receive one or more licenses to the licensed content corresponding to the user content request **211** for which the user is not currently licensed. Note the license acquisition mechanism **216** may use the payment authorization mechanism **217** and/or information send mechanism **218** to automatically acquire one or more licenses to the licensed content corresponding to the user content request **211** for which the user is not currently licensed, without requiring any further input from the user. Once the license acquisition mechanism **216** acquires any needed licenses, the license verification mechanism **260** verifies the user is now licensed to receive all the licensed content corresponding to the user content request **211**, and in response the content rendering mechanism **250** renders the requested content to the user's browser **210**. Note if the license information received by the license query mechanism **215** does not satisfy the licensing policy specified by the user, the user prompt mechanism **219** may prompt the user and allow the user to authorize the license for the licensed content even though the license information does not satisfy the licensing policy **214**.

Referring to FIG. 3, a method **300** begins when a user requests via a browser a document from a content provider (step **310**). Note this specific example in FIG. 3 assumes a document, such as a web page, is requested by a user, which may include one or more portions that are licensed. If all content in the document requested by the user is unlicensed (step **320**=YES), the content provider renders the full document to the user's browser (step **380**). If some of the content in the document is licensed (step **320**=NO), and if the user has existing license(s) for the licensed content in the document (step **330**=YES), the content provider renders the full document to the user's browser (step **380**). If some content in the document is licensed (step **320**=NO) and the user does not have existing licenses for all licensed content in the document (step **330**=NO), the content provider is queried for license information for the licensed content in the document (step **340**). The licensing policy specified by the user is then read (step **350**). When the license information received from the content provider satisfies the license policy (step **360**=YES), any needed license for the licensed content is automatically acquired without further interaction by the user (step **370**), after which the content provider renders the full document to the user's browser (step **380**). When the license information does not satisfy the license policy (step **360**=NO), the user may be prompted for authorization (step **362**). If the user authorizes the acquisition of the license when prompted (step **364**=YES), any needed licenses for the licensed content are automatically acquired without further input from the user (step **370**), and the content provider renders the full document to the user's browser (step **380**). If the user does not authorize when prompted (step **364**=NO), the content provider renders a partial document to the user's browser that does not include any content for which the user did not provide authorization. Note an alternative to step **390** is for the content provider not to provide any of the document to the user, but to provide instead an error message that the user is not licensed to receive all of the content in the document. Note also that steps **362** and **364** are optional, and need not necessarily be performed.

Referring to FIG. 4, sample license information **410** is shown. The dynamic licensing of information as disclosed herein may involve any suitable type of license information. For example, the sample license information **410** may include delivery of content based on micropayments. Thus,

the license information **410** may include a price per object **422**, such as \$0.05 every time the object is viewed, downloaded or otherwise received. The license information **410** may include a price per time viewed **424**. For example, the user may be charged \$0.10 per minute for viewing an object. The license information may also include different prices depending on the time of day the object is received **426**. For example, an object might have a price of \$0.10 during peak times and a price of \$0.05 during off-peak times. In addition, the license information **410** may include a price for a “Quick Peek” **428** of the licensed content. For example, a “quick peek” could have a price of \$0.10 which allows a 10 second view of the object, while full access to the object is priced at \$1.00. The license information **410** may also include a price for bulk licensing **430**. For example, a user may agree to a contract with a particular provider to be able to receive all content originating from that provider. Note that this method may be combined with other licensing criteria associated with content delivered from different providers as described above (e.g. per object, etc.). Also note that a provider may want to deliver some content in bulk but other content according to other licensing schemes.

The license information **410** may also include a price for a flat rate license **432**. For example, a flat rate of \$19.99 per month could license the user to receive a particular kind or set of content. The license information **434** may also include a price for a sliding scale license **434**. For example, a particular content provider may offer content delivery at the rate of \$0.25 per object, but may drop the price to \$0.10 per object once a user retrieves a certain amount of content from the provider (e.g., 50 objects). The license information **410** may include preferred license information **436**. For example, if the user already has a flat rate license with the Institute of Electrical and Electronic Engineers (IEEE), when requesting technical information the user would like it to be retrieved from IEEE as opposed to utilizing other licenses (such as micropayment) from different providers that would incur a cost for the same content. The license information **410** may also include available discount information (step **438**). Available discounts could be provided based on any suitable criteria. For example, the content provider could provide a discount based on the browser and its plugins. Thus, if the browser includes a plugin that limits copying of content, the user may be eligible for a discount. If the browser includes features for delivering content to a person who is visually-impaired, a discount might be available based on delivering non-visual content in a document and not delivering visual content such as images.

The sample license information **410** shown in FIG. 4 is not an exhaustive list, and is not limiting but is shown by way of example. Note, however, the license information relating to licensed content may be any suitable criteria or heuristic. Any or all of the various criteria shown in FIG. 4, or any suitable combination of those criteria or other criteria, could be applied to any licensed content. Thus, the license information corresponding to content A at **242A** in FIG. 2, could include any combination of license information shown in FIG. 4 or other license information. The same is true of license information at **242B** through **242N** in FIG. 2, as the simple example below illustrates.

Referring to FIG. 5, a sample licensing policy **510** shows various criteria that could be specified by the user in the licensing policy **214** shown in FIG. 2. The user could specify any or all of the following criteria in a licensing policy: a maximum cost per object **522**; a maximum cost per time viewed **524**; a maximum cost per time of day received **526**; a maximum cost for a quick peek **528**; a maximum cost for

a bulk license **530**; a maximum cost for a flat rate license **532**; a maximum cost for a sliding scale license **534**; a preferred license specification **536**; a maximum cost per document **538**; a maximum cost per day for the user **540**; a content substitution tradeoff **542**; a cost increase specification **544**, and an available discounts specification **546**. Items **520-536** may be understood with reference to the discussion of items **420-436** in FIG. 4 above. The maximum cost per document **538** allows a user to specify a maximum cost for a document. For example, if the user specifies a maximum cost of \$1.00 for a document, and the least expensive price for available licenses exceeds this \$1.00 maximum, the license information for the document does not satisfy the licensing policy specified by the user. The maximum cost per day for the user **540** allows a user to specify how much the user is willing to spend on content in a given day. Thus, let's assume a user sets the maximum cost per day **540** at \$3.00, and the user has already spent \$2.90. If the licensed content in the next document requested by the user has a price of more than \$0.10, the license information for the licensed content would no longer satisfy the sample licensing policy because the total would exceed the maximum cost per day of \$3.00 specified by the user in the licensing policy. Note the maximum cost per day **540** shown in FIG. 5 is one suitable example of a maximum cost per time period for a user, where the time period can be any suitable time period denominated in any suitable time unit, including seconds, hours, days, weeks months, years, decades, etc.

The sample licensing policy **510** also includes a content substitution tradeoff **542**. For example, if more than one version of content can be used in a document, the user may choose to select a less expensive version in order to keep costs for the document down. For example, if lower resolution images have a lower license fee, the user can select to utilize them when possible. Other substitutions may also apply such as monochromatic images, public stock photos, etc. The sample licensing policy **510** also includes a cost increase specification **544** that may specify a sliding scale for licensed content the user may want to retrieve. For example, what can the user see for \$0.10, \$0.25, or \$1.00? The user can view a lower cost version first, and increase the fees to see more, incrementally. The sample licensing policy **510** also includes an available discounts specification **546**. For example, if the user has impaired vision, the available discounts specification may specify to only deliver content when the content provider is willing not to charge for visual content, such as images.

The various criteria shown in the sample licensing policy **510** in FIG. 5 is not an exhaustive list, and is not limiting. The sample licensing policy **510** shown in FIG. 5 is shown by way of example. Sample licensing policy **510** shows various criteria that could be specified by the user in the licensing policy **214** shown in FIG. 2. Any or all of the various criteria shown in FIG. 5, or any suitable combination of those criteria or other criteria, could be specified by a user in the licensing policy **214**.

A specific example is now given to explain many of the concepts discussed above with reference to FIGS. 1-5. Referring to FIG. 6, we assume a document A **610** at a content provider includes many different content portions provided by many different content providers. Document A could be, for example, a web page provided by a news organization. Image001 is provided by content provider L; Image002 by content provider M; Text003 by content provider N; Audio Clip 004 from content provider O; Video Clips 005, 006 and 007 from content provider P; Text008 from content provider Q; Audio Clip 009 from content

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provider R; Audio Clip **010** from content provider S; Audio Clip **011** from content provider T; Link**1** from content provider U; Link**2** from content provider V; and Link**3** from content provider W. We assume for this example Link**1**, Link**2** and Link**3** are links that, when selected by the user, provide licensed content to the user.

License information for all the content in document A is shown at **710** in FIG. 7. The license information **710** corresponds to the content/license information pairs shown at **242A**, **242B**, . . . , **242N** in FIG. 2. Image**001** includes many different license options as shown in the license information. The license information for Image**001** includes price per object of \$0.25, price for a Quick Peak at \$0.05, price of a bulk license from Content Provider L at \$15/year, price of a flat rate license from Content Provider L at \$2 per month, and price for a sliding scale license from content provider L at \$0.25 per object, but once the user has paid for 100 objects, the price reduces to \$0.15 per object. The license information for Image**002** includes price per object of \$0.10, and price of a bulk license from Content Provider M at \$1 per month or \$10 per year. The license information for Text**003** includes price per object from 8 AM to 5 PM of \$0.20, and price per object from 5 PM to 8 AM at \$0.08. The license information for Audio Clip **004** indicates the audio clip is free in exchange for the user providing his or her e-mail address. The license information for Video Clip **005** indicates a price per object of \$0.05, and a price of a bulk license from Content Provider P at \$20 per year. The license information for Video Clip **006** indicates a price per object of \$0.10, and a price of a bulk license from Content Provider P at \$20 per year. The license information for Video Clip **007** indicates a price per object of \$0.25, and a price of a bulk license from Content Provider P at \$20 per year. We assume for this example that the video clips **005**, **006** and **007** are similar clips that have different prices depending on the length and/or quality of the video. For example, Video Clip **005** might be a two minute portion of an interview, while Video Clip **006** is a four minute portion of the same video and Video Clip **007** is the entire twelve minute video. In the alternative, Video Clip **005** could be a low-resolution video clip, Video Clip **006** could be a medium-resolution video clip, and Video Clip **007** is a high-resolution video clip, all of the same clip.

The license information for Text**008** includes a price per object of \$0.05. The license information for Audio Clip **009** indicates a price per object of \$0.05, and a price of a bulk license from Content Provider R at \$10 per year. The license information for Audio Clip **010** indicates a price per object of \$0.10, and a price of a bulk license from Content Provider S at \$15 per year. The license information for Audio Clip **011** indicates a price per object of \$0.07, and a price of a bulk license from Content Provider T at \$25 per year. The license information for Link**1** indicates a price per object from 9 AM to 6 PM of \$0.10, and a price per object from 6 PM to 9 AM of \$0.05. The license information for Link**2** indicates a price per object of \$0.15 and a price of a bulk license from Content Provider V at \$12 per year. The license information for Link**3** indicates the link is free.

Referring to FIG. 8, a licensing policy **810** for a user J is shown to include many criteria. The maximum cost per object is \$0.10 at **820**. The maximum cost per object is \$0.10 at **822**. The maximum cost per time viewed is \$0.05 per minute at **824**. The maximum cost per time of day received is \$0.20 peak and \$0.10 off-peak at **826**. The maximum cost for a quick peek is \$0.05 at **828**. The maximum cost for a bulk license is \$2 per month or \$20 per year at **830**. The maximum cost per document is \$2 at **832**. The maximum

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cost per day for User J is \$10 at **834**. Content with an existing license is preferred at **836**. User information may be provided to obtain a license at **838**. Less expensive content substitution is allowed at **840**. And content that is discounted based on browser and plugins is preferred at **842**.

We assume for this example the User J requests Document A from the content provider at 5:30 PM. The dynamic licensing mechanism determines whether the license information in FIG. 7 satisfies the criteria specified in the User J Licensing Policy **810** in FIG. 8. For Image**001**, the price per object of \$0.25 is greater than the maximum cost per object of \$0.10, but the price for a quick peek of \$0.05 satisfies the maximum cost for a quick peak of \$0.05 at **828** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.05 for a Quick Peek at Image**001** and acquires a license for a quick peek at Image**001**. We assume for this example a Quick Peek lasts for ten seconds. For Image**002**, the price per object of \$0.10 satisfies the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.10 for a license to receive Image**002**. For Text**003**, because the time the user requests Document A is 5:30 PM, the price per object for Text**003** is \$0.08, which satisfies the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.08 to receive a license to receive Text**003**. For Audio Clip **004**, the license is free if the user provides the user's e-mail address. Because the licensing policy **810** specifies to provide user information to obtain a license at **838**, the dynamic licensing mechanism sends the user's e-mail address, and in response, acquires a license to Audio Clip **004**. For Video Clips **005**, **006** and **007**, we assume these three are provided by the same Content Provider P, and represent the same video clip with Video Clip **005** being low-resolution, Video Clip **006** being medium-resolution, and Video Clip **007** being high-resolution. Because the licensing policy **810** specifies to allow less expensive content substitution at **840**, and because the cost for the least expensive of the three video clips is \$0.05 for the low resolution Video Clip **005**, which is less than the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, the dynamic licensing mechanism automatically authorizes payment of \$0.05 to receive a license to view Video Clip **005**.

For Text**008**, the price per object of \$0.05 is less than the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.05 to receive a license to receive Text**008**. For Audio Clip **009**, the price per object of \$0.05 is less than the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.05 to receive a license to receive Audio Clip **009**. For Audio Clip **010**, the price per object of \$0.10 satisfies the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.10 to receive a license to receive Audio Clip **010**. For Audio Clip **011**, the price per object of \$0.07 is less than the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.07 to receive a license to receive Audio Clip **011**. For Link**1**, because the time Document A was requested is 5:30 PM, the price per object of \$0.10 satisfies the maximum cost per object of \$0.10 at **820** in the licensing policy **810**, so the dynamic licensing mechanism automatically authorizes payment of \$0.10 to receive

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a license to receive Link1. For Link2, the price per object of \$0.15 exceeds the maximum cost per object of \$0.10 at 820 in the licensing policy 810, so the dynamic licensing mechanism does not acquire a license to receive Link2. For Link3, the license information indicates the link is free without conditions, so the user may either acquire a license to receive Link3, or the content provider can provide Link3 to all users because Link3 is free without conditions.

The resulting document 1000 that is rendered to User J is shown in FIG. 10. We assume for this example User J was prompted that Link2 did not satisfy the criteria in the licensing policy 810 (see step 362 in FIG. 3), and the user did not authorize payment for Link2 (step 364=NO in FIG. 3). Link2 is not included in document 1000 because the licensing policy 810 was not satisfied by the license information for Link2 and the user did not authorize payment for Link2 when prompted. As a result, document 1000 represents a partial document that would be rendered to User J at step 390 in FIG. 3. In one specific implementation, the content provider could render document 1000 without Link2 in a way that the user will not realize the link is missing. In the specific implementation shown in FIG. 10, a marker "Link2 Missing Marker" indicating Link2 is missing is included in the document to convey to User J that some content in the document was not rendered because the user was not licensed to receive the content. Note the marker could include a link with a price for the missing content so the user could click on the link to download the missing content to the document.

A summary of the charges to User J for receiving Document A are shown in the table in FIG. 9. Thus, the user will pay \$0.65 to view Document A. In one specific implementation, the content provider that provides Document A will provide the licenses from all the license providers to User J. This provides an opportunity for the content provider of Document A to increase the charges for providing a value-added service of providing content from the various providers. Thus, while the price of Image002 to User J is \$0.10, the content provider that provides Document A might keep \$0.04 while paying Content Provider M \$0.06 for providing Image002 to User J. In a different implementation, the dynamic licensing mechanism could query individual content providers and request and receive licenses from those providers directly, with the provider of Document A simply verifying User J has the necessary licenses from the various content providers before rendering the licensed content to User J.

While the specific example in the figures and discussed above shows a single content provider 220 providing a document that includes content from multiple content providers, the disclosure and claims herein expressly extend to the user receiving licensed content from multiple content providers at the same time. Thus, the various portions of Document A rendered to the user could be retrieved from the different content providers instead of from a single content provider.

One possible specific use for the dynamic licensing mechanism disclosed herein is for digital newspapers. Digital paper is well-known, and allows downloading text and images in a manner that remains on the digital paper after power is removed. A user could define a licensing policy that determines how much the user is willing to pay for content that is downloaded to the user's digital newspaper. When the user downloads information to the digital paper, the news provider would only provide the content to the digital paper that satisfies the licensing policy, and other content would not be downloaded to the digital paper. Another specific

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application is electronic readers or notepads that allows a user to receive information from content providers. Of course, another application is for a user to access a web page via a web browser on a computer. Yet another application is for a user to access licensed content on the user's mobile phone. Yet another application is for a user of a content management system to receive a document that includes licensed content from the repository of content managed by the content management system. The disclosure and claims herein extend to any suitable manner for a user to request licensed content from one or more content providers.

Yet another specific implementation for the dynamic licensing mechanism disclosed herein is for users that have special needs, such as those who are visually-impaired or hearing-impaired. For example, a user that is hearing-impaired could download a plugin for their browser that indicates the user does not need to receive audio content, and the user could also specify in the licensing policy not to authorize charges for any audio content. Content providers could then specifically target the hearing-impaired by recognizing the plugin that indicates the user is hearing-impaired, and providing discounts for content based on the plugin. Of course, the same functionality could be achieved by the user explicitly specifying preferences in the licensing policy, such as not paying for audio content.

Note the dynamic licensing mechanism may also include intelligence that helps to minimize cost for licensed content based on past use. For example, if the user has accessed 40 different objects for \$0.10 each in the past week, the dynamic licensing mechanism may determine it will be more cost-beneficial in the long run to get a bulk license instead of paying per-object. In addition, the dynamic licensing mechanism could shop around to different content providers to see if identical or compatible content is available at a lower cost from a different content provider.

The licensing policy could also be specific to a user's role or interests. For example, one licensing policy for work and a different licensing policy for personal use could be defined with different criteria. In the alternative, a licensing policy could be defined for different areas of interest. Thus, a user might define one licensing policy for entertainment, and a different licensing policy for news. The disclosure and claims herein expressly extend to a user defining multiple licensing policies.

The dynamic licensing mechanism disclosed herein can automatically request and receive licenses for licensed content when one or more criterion in a licensing policy is satisfied by license information relating to the licensed content, without the user providing any further input to acquire the licenses. When the criteria in the licensing policy is not satisfied, the user may be prompted for authorization to obtain a license. If the user authorizes, the dynamic licensing mechanism then acquires the license. If the user does not authorize the acquisition of the license, the licensed content is not provided to the user.

One skilled in the art will appreciate that many variations are possible within the scope of the claims. Thus, while the disclosure is particularly shown and described above, it will be understood by those skilled in the art that these and other changes in form and details may be made therein without departing from the spirit and scope of the claims.

The invention claimed is:

1. An apparatus comprising:
  - at least one processor;
  - a memory coupled to the at least one processor;



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a browser residing in the memory and executed by the at least one processor that provides an interface for a user to request licensed content;

a licensing policy residing in the memory and defined by the user that specifies at least one criterion for automatically acquiring at least one license; and

a dynamic licensing mechanism that requests the licensed content from a content provider in response to the user requesting the licensed content via the browser, queries the content provider for license information for the licensed content that specifies at least one available license for the licensed content, and when the license information satisfies the at least one criterion in the licensing policy, the dynamic licensing mechanism acquires a license for the licensed content without requiring further input from the user, allowing the user to receive the licensed content, and when the license information does not satisfy the at least one criterion in the licensing policy, the dynamic licensing mechanism prompts the user for authorization to acquire the license for the licensed content.

2. The apparatus of claim 1 wherein the dynamic licensing mechanism comprises a payment authorization mechanism that authorizes payment to the content provider in exchange for the license for the licensed content.

3. The apparatus of claim 1 wherein the dynamic licensing mechanism further comprises an information send mechanism that sends information from the user to the content provider in exchange for the license to the licensed content.

4. The apparatus of claim 1 wherein the license policy specifies maximum cost for the licensed content.

5. The apparatus of claim 1 wherein the license policy specifies maximum cost for a document that includes the licensed content.

6. The apparatus of claim 1 wherein the license policy specifies maximum cost per time period for the user.

7. The apparatus of claim 1 wherein the license policy specifies maximum cost to download the licensed content, maximum cost per unit of time the licensed content is viewed, maximum cost for the licensed content according to time of day the licensed content is received, maximum cost to receive the licensed content for a limited period of time, maximum cost for a bulk license for the licensed content, maximum cost for a flat rate license for the licensed content, maximum cost for a sliding scale license for the licensed content, a preferred license for the licensed content, maximum cost per document that includes the licensed content, maximum cost per time period for the user, whether content substitution is allowed according to cost, what an increase in cost will provide to the user, and available discounts for the licensed content.

8. A computer-implemented method for a user to receive licensed content from at least one content provider, the method comprising the steps of:

- providing at least one processor;
- providing a memory coupled to the at least one processor;
- the at least one processor performing the steps of:
  - a user defining a license policy that specifies at least one criterion for automatically acquiring at least one license;
  - receiving a request from the user for the licensed content;
  - sending the request for the licensed content to the at least one content provider;
  - querying the at least one content provider for license information for the licensed content;

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determining when the license information satisfies the at least one criterion in the licensing policy, and in response, acquiring a license for the licensed content without requiring further input from the user;

the user receiving the licensed content from the at least one content provider; and

determining when the license information does not satisfy the at least one criterion in the licensing policy, and in response, prompting the user for authorization to acquire the license for the licensed content.

9. The method of claim 8 wherein the acquiring the license for the licensed content comprises authorizing payment to the at least one content provider in exchange for the license for the licensed content.

10. The method of claim 8 further comprising the step of sending information from the user to the content provider in exchange for the license to the licensed content.

11. The method of claim 8 wherein the license policy specifies maximum cost for the licensed content.

12. The method of claim 8 wherein the license policy specifies maximum cost for a document that includes the licensed content.

13. The method of claim 8 wherein the license policy specifies maximum cost per time period for the user.

14. The method of claim 8 wherein the license policy specifies maximum cost to download the licensed content, maximum cost per unit of time the licensed content is viewed, maximum cost for the licensed content according to time of day the licensed content is received, maximum cost to receive the licensed content for a limited period of time, maximum cost for a bulk license for the licensed content, maximum cost for a flat rate license for the licensed content, maximum cost for a sliding scale license for the licensed content, a preferred license for the licensed content, maximum cost per document that includes the licensed content, maximum cost per time period for the user, whether content substitution is allowed according to cost, what an increase in cost will provide to the user, and available discounts for the licensed content.

15. An article of manufacture comprising software stored on non-transitory recordable media, the software comprising:

- a dynamic licensing mechanism that, when executed by at least one processor, requests licensed content from a content provider in response to a user requesting the licensed content via a browser, queries the content provider for license information for the licensed content that specifies at least one available license for the licensed content, and when the license information satisfies at least one criterion in a licensing policy defined by the user for automatically acquiring at least one license, the dynamic licensing mechanism acquires a license for the licensed content without requiring further input from the user, allowing the user to receive the licensed content, and when the license information does not satisfy the at least one criterion in the licensing policy, the dynamic licensing mechanism prompts the user for authorization to acquire the license for the licensed content.

16. The article of manufacture of claim 15 wherein the dynamic licensing mechanism comprises a payment authorization mechanism that authorizes payment to the content provider in exchange for the license for the licensed content.

17. The article of manufacture of claim 15 wherein the dynamic licensing mechanism further comprises an infor-

mation send mechanism that sends information from the user to the content provider in exchange for the license to the licensed content.

18. The article of manufacture of claim 15 wherein the license policy specifies maximum cost for the licensed content. 5

19. The article of manufacture of claim 15 wherein the license policy specifies maximum cost for a document that includes the licensed content.

20. The article of manufacture of claim 15 wherein the license policy specifies maximum cost per time period for the user. 10

21. The article of manufacture of claim 15 wherein the license policy specifies maximum cost to download the licensed content, maximum cost per unit of time the licensed content is viewed, maximum cost for the licensed content according to time of day the licensed content is received, maximum cost to receive the licensed content for a limited period of time, maximum cost for a bulk license for the licensed content, maximum cost for a flat rate license for the licensed content, maximum cost for a sliding scale license for the licensed content, a preferred license for the licensed content, maximum cost per document that includes the licensed content, maximum cost per time period for the user, whether content substation is allowed according to cost, what an increase in cost will provide to the user, and available discounts for the licensed content. 15 20 25

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